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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/779,495 | 02/09/2001 | Yuichi Kawanishi | 1344.1055 (JDH) | 5533 |

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| EXAMINER |
|---|
| MORAN, MARJORIE A |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1631 | |

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/779,495 | Applicant(s) KAWANISHI ET AL. | |
|---|---|---|---|
| | Examiner Marjorie A. Moran | Art Unit 1631 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *09 February 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4, 21* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

***Information Disclosure Statement***

The IDS filed 3/5/02 as paper #4 has been considered in full. The references cited on the IDS filed as paper #21 have been crossed out to prevent duplication as both are also listed on the IDS filed as paper #4, and were considered as part of that IDS.

***Specification***

The abstract of the disclosure is objected to because the first sentence is grammatically incorrect and generally confusing. Appropriate correction is required; the examiner suggests rewriting the abstract to recite grammatically correct language. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recite "clarified gene arrangement information" in lines 1-2. It is unclear what meaning is intended for "clarified" in the context of gene arrangement information, therefore the claim is indefinite. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). The accepted meaning is "to make understandable" or "to make pure" (i.e., free of particulates). However, neither of these meanings appear to apply to gene arrangement information. The specification discloses the term "clarify" with regard to gene arrangements of page , but does not define the term. It appears that the term/phrase may

have been translated incorrectly, therefore the examiner suggests reviewing the original PCT application and using an English term which accurately reflects applicant's intended meaning.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by ATTWOOD et al. (J. Chem. Inf. Comput. Sci. (1997) vol. 37, pp. 417-424).

ATTWOOD teaches a method and program for extracting and processing genetic motifs which comprises scanning a database (I.e. input genetic information), extracting (excising) motifs, retrieving information about new sequences comprising the motifs, and adding the retrieved information to the database (p. 418, left column), thereby anticipating claims 8 and 9. The method of ATTWOOD is clearly run using a computer, therefore the computer must inherently comprise "means" for performing each step of the method, and claim 1 is also anticipated. ATTWOOD further teaches that motifs are aligned with other sequences in his method and that results may be displayed (p. 419), thereby inherently teaching means for performing these steps, and anticipating claims 5 and 7. ATTWOOD also teaches that his motifs may be stored and registered (identified) in a database (p. 418, right column), thus anticipating claim 6. As ATTWOOD teaches iterative scanning to augment (edit) his sequence database (p. 418, left column), he inherently teaches a means for editing sequence (gene arrangement) information, and thereby anticipates claim 3.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAWANISHI et al. (US 5,598,350) and ATTWOOD et al. (J. Chem. Inf. Comput. Sci. (1997) vol. 37, pp. 417-424).

The claims recite a an apparatus, method, and recording medium comprising a program for extracting and processing genetic motifs comprising means or steps for inputting gene arrangement information, extracting a genetic motif for the input data, retrieving genetic information comprising the extracted motif, and adding the retrieved information to the input gene arrangement information. Claim 2 limits the apparatus to further comprise means for designating a motif extraction range. Claim 3 limits the apparatus to further comprise a means for editing gene arrangement information. Claim 4 limits the apparatus to further comprise motif

editing means. Claim 5 limits the apparatus to further comprise an alignment means. Claim 6 limits the apparatus to further comprise motif storing means. Claims 7 limits the apparatus to further comprise a motif display means.

ATTWOOD teaches a method and program for extracting and processing genetic motifs, as set forth above. ATTWOOD does not teach means for designating a motif range nor a motif editing means.

KAWANISHI teaches a method and means for extracting and processing genetic motifs wherein his apparatus comprises an input means for genetic information, a motif extraction means which extracts a motif based on a designated extraction range, and an output means (col. 4, lines 4-35). KAWANISHI further teaches that extracted motifs may be edited (col. 10, lines 43-46).

It would have been obvious tone of ordinary skill in the art at the time of invention to have included the extraction range and editing means of KAWANISHI in the method and means of ATTWOOD where the motivation would have been extract and identify motifs at high speed and easily, as taught by KAWANISHI (col. 12, lines 60-66). One skilled in the art would reasonably have expected success in including the motif extraction range and editing of KAWANISHI in the method and means of ATTWOOD because both ATTWOOD and KAWANISHI teach similar automated methods/means for extracting and processing genetic motifs.

***Conclusion***

Claims 1-9 are rejected; the abstract is objected to.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marjorie A. Moran whose telephone number is (703) 305-2363. The examiner can normally be reached on Monday to Friday, 7:30 am to 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (703) 308-4028. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3524.

MARJORIE MORAN
PATENT EXAMINER

Marjorie A. Moran

December 13, 2002